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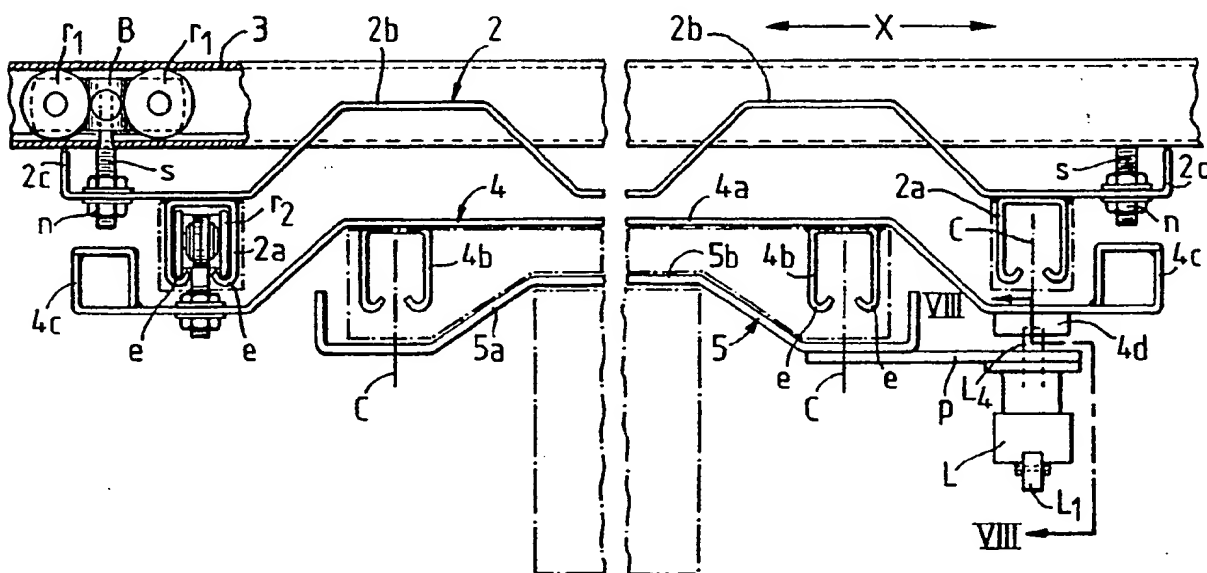
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(54) Gantry

(57) A lifting gantry is fitted in a roof of vehicle and has a main frame 2 slidable on rails 3 along the length of the vehicle. Upper sheet member beam 4 supports a trolley 5 with crane hook 6 and the beam and trolley are slidable across vehicle V and beyond each side of the vehicle. The sections of the gantry assembly 2, 4, 5 are connected together by rollers r_1 , r_2 and c. The beams 2 and 4 are shaped to provide raised sections supporting the trolley. Thus the assembly 2, 4, 5 is very compact and movement of the beam 4 and trolley across the vehicle, and movement of the assembly along the vehicle may be motorised. In a further embodiment (Figs 9 - 11, not shown) the beams are of open box-section and received telescopically one within the other.

FIG. 6.



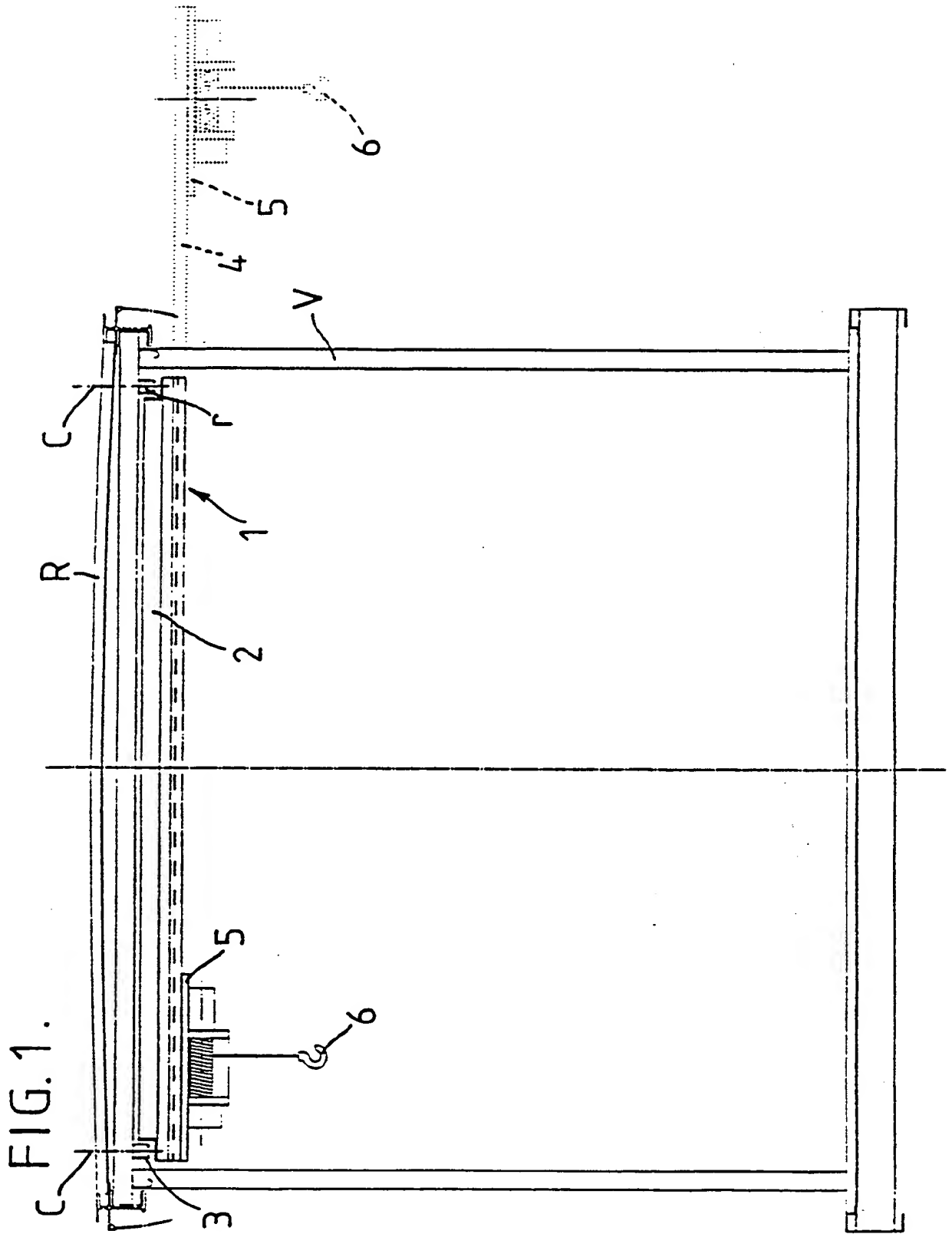


FIG. 2.

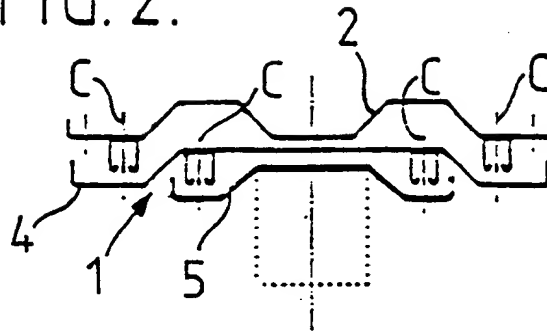


FIG. 3.

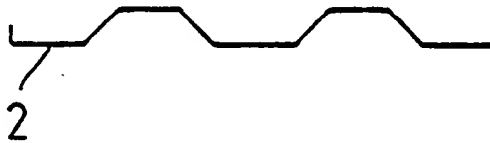


FIG. 4.



FIG. 5.



Technical drawing of a mechanical device, likely a part of a machine. The drawing shows a cross-section of a component with rollers. The rollers are labeled r_1 and r_2 . The component is labeled B . A lever arm is labeled 4 . The lever arm is pivoted at a point labeled e . The lever arm has a hook-like end labeled $4b$ and a rectangular end labeled $4c$. The lever arm is connected to a component labeled 2 . The component 2 has a curved surface labeled $2a$ and a flat surface labeled $2b$. The component 2 is mounted on a base labeled $2c$. The base $2c$ is secured with a bolt labeled s . The lever arm 4 is also secured with a bolt labeled n . The lever arm 4 is connected to a component labeled $5a$. The component $5a$ has a hook-like end labeled $5b$ and a rectangular end labeled $5c$. The component $5a$ is mounted on a base labeled $5c$. The base $5c$ is secured with a bolt labeled e . The lever arm 4 is also secured with a bolt labeled e . The lever arm 4 is connected to a component labeled $4b$. The component $4b$ has a hook-like end labeled $4c$ and a rectangular end labeled $4d$. The component $4b$ is mounted on a base labeled $4d$. The base $4d$ is secured with a bolt labeled e . The lever arm 4 is also secured with a bolt labeled e . The lever arm 4 is connected to a component labeled $4b$. The component $4b$ has a hook-like end labeled $4c$ and a rectangular end labeled $4d$. The component $4b$ is mounted on a base labeled $4d$. The base $4d$ is secured with a bolt labeled e . The lever arm 4 is also secured with a bolt labeled e . The lever arm 4 is connected to a component labeled $4b$. The component $4b$ has a hook-like end labeled $4c$ and a rectangular end labeled $4d$. The component $4b$ is mounted on a base labeled $4d$. The base $4d$ is secured with a bolt labeled e . The lever arm 4 is also secured with a bolt labeled e .



FIG. 7.

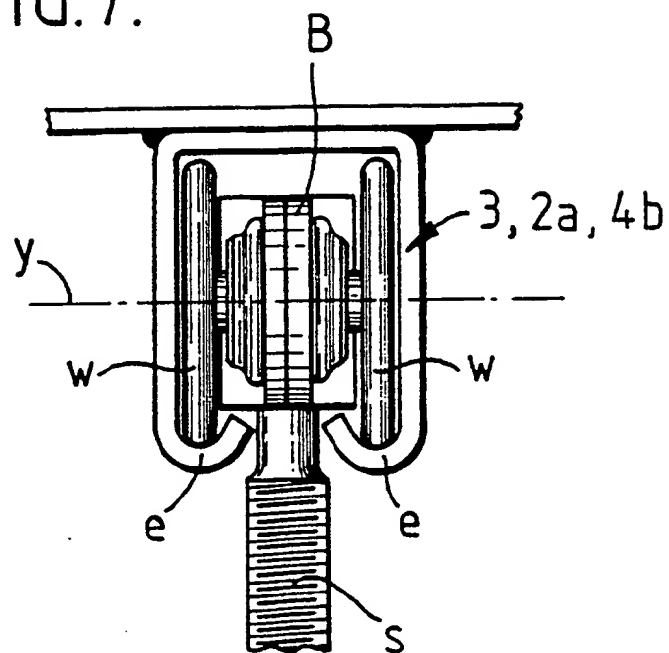


FIG. 8.

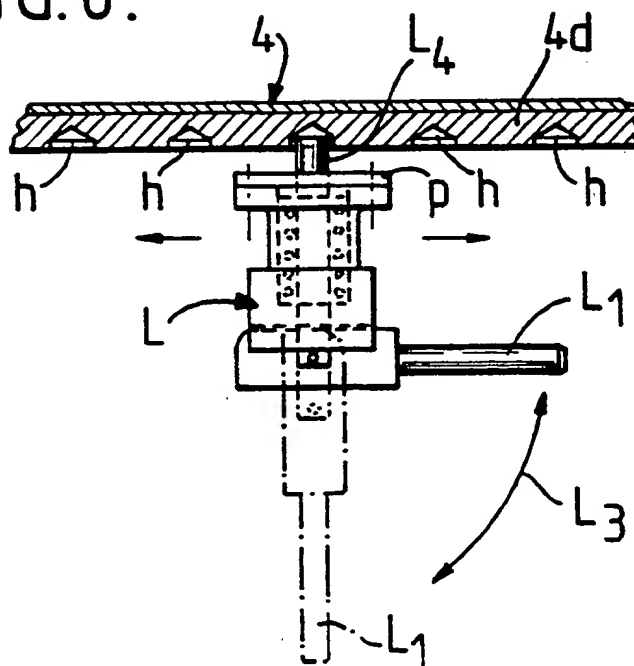


FIG. 10.

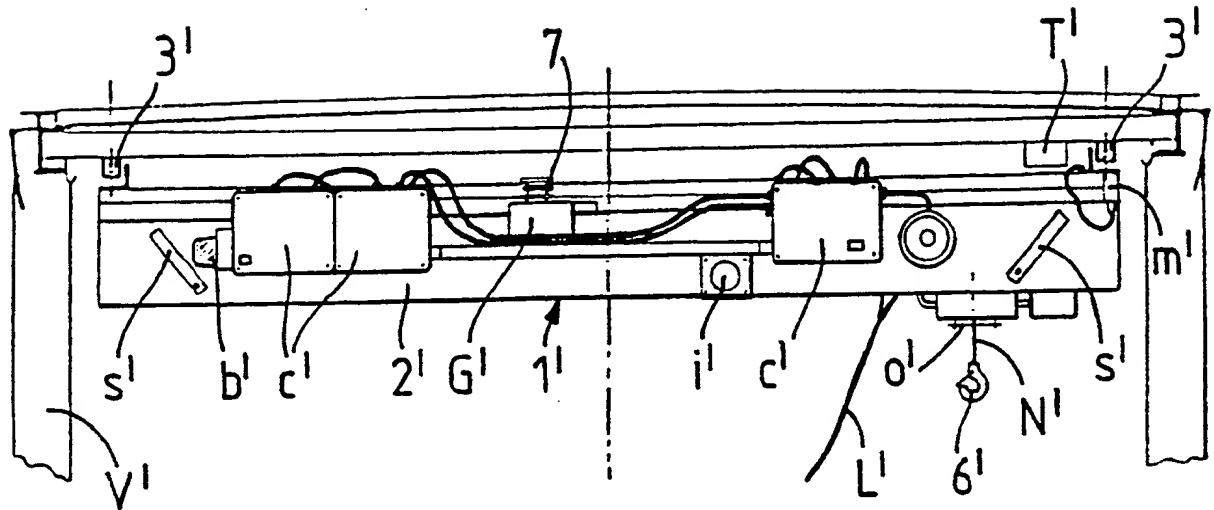
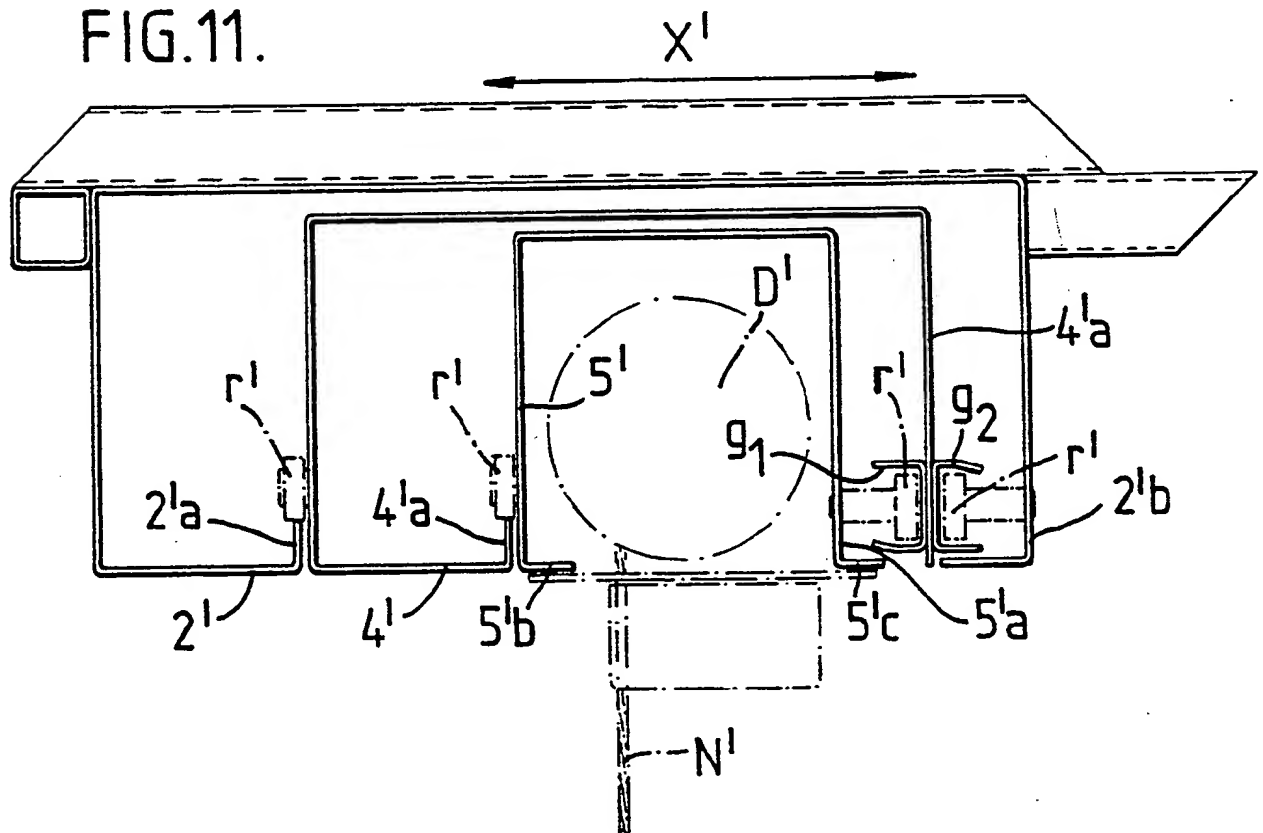


FIG. 11.



IMPROVEMENTS IN OR RELATING TO GANTRIES
OR PLATFORMS FOR SUPPORTING A LIFTING
ARRANGEMENT OR TRAVELLING CRANE

5

This invention relates to improvements in or relating to gantries or platforms for supporting a lifting arrangement or travelling crane and is more particularly, but not exclusively, concerned with such a gantry or
10 platform for goods vehicles.

Gantries have been provided in goods vehicles comprising a platform carrying a travelling crane, said platform being movable along the length of the vehicle in
15 the roof thereof. However, there tend to be problems in incorporating gantries into such vehicles because of the space requirement in the vehicle, said vehicle necessitating a larger or higher size of vehicle than would otherwise be required. Additionally, it is believed
20 that the design of such gantries could be improved in many respects whether fitted to a vehicle or not. However, the problem tends to be acute in goods vehicles where a suitable lifting arrangement plays an extremely important role in loading and unloading of the vehicle where a large
25 or heavy quantity of goods are being handled. For example, in the case of brewery vehicles used for the transport of beer barrels, unloading generally takes place where no powered mechanical handling aids such as fork lift trucks are available and it is in just such a

situation where it is believed an improved gantry/supporting platform would be of very considerable importance.

5

It is an object of the present invention to provide an improved gantry or platform for a lifting arrangement or to at least alleviate one or more of the aforementioned, or other, problems associated with
10 gantries/platforms or vehicles including a gantry/platform.

According to one aspect of the present invention there is provided a gantry, or platform for supporting a
15 lifting arrangement or travelling crane, for a vehicle, said gantry or platform extending, in use, from side to side of the vehicle and having a sheet member beam able to project beyond at least one side of the vehicle through an opening in said one side, said sheet member beam co-
20 operating with a lower sheet member of a movable trolley slidable in use, across the width of the vehicle relative to said upper sheet member beam and beyond each side of the vehicle, a raised portion of the upper sheet member beam accommodating at least part of the lower sheet member
25 and said lower sheet member preferably having a raised portion accommodating part of a lifting arrangement or travelling crane arranged on the trolley.

According to a second aspect of the present invention

there is provided a gantry, or platform for supporting a lifting arrangement or travelling crane, for a vehicle, said gantry or platform extending, in use, from side to side of the vehicle and having a beam able to project
5 beyond at least one side of the vehicle through an opening in said one side, said beam being movable on opposed rail means and having a raised portion in between opposed said rail means, said beam supporting a trolley from said raised portion, which trolley is slidable relative to said
10 beam.

In one embodiment of the present invention, said beam supports the trolley by means of further opposed rail
15 means and said trolley has a raised portion in between said further opposed rail means, said raised portion supporting a travelling crane or lifting apparatus. Said further opposed rail means are preferably arranged in between said first-mentioned opposed rail means. The beam
20 and trolley, preferably, comprise sheet metal pressings for example of 3 mm gauge material and/or preferably the gantry or platform comprises a sheet member main frame which supports the beam. The first-mentioned opposed rail means may depend downwardly from said main frame and
25 engage with upwardly extending rollers mounted on said beam or vice versa.

Preferably, the main frame is movable, in use, along the length of the vehicle on additional opposed rail means

extending along the sides of the vehicle transverse to the first-mentioned and second-mentioned opposed rail means where provided. Upwardly projecting roller means connected to the main frame may engage in said third-
5 mentioned opposed rail means.

The raised portions of the beam and/or trolley are conveniently trapezium shaped and/or the main frame may be
10 provided with one or more raised portions (also preferably of trapezium shape), advantageously, in order to provide additional strength for the main frame.

Any suitable mechanism may be provided which allows
15 the beam to slide relative to the first-mentioned opposed rail means and/or which allows the trolley to slide relative to said beam and/or which allows the main frame where provided, to slide relative to the vehicle in use.

20 Movement of the trolley relative to the beam and/or the beam relative to the first-mentioned opposed rail means and/or the movement of the main frame relative to said third mentioned opposed rail means may be via remote control and/or may be motorised.

25

The trolley may be provided with a locking mechanism to selectively lock the trolley to said beam.

The first, second and/or third opposed rail means may

be provided with end stops to limit the travel of the rollers thereon.

5 Many other advantageous features of the present invention will be apparent from the following description and drawings.

10 Still further according to the present invention there is provided a gantry, or platform, supporting a lifting arrangement or travelling crane, comprising one or more of the following features:

15 (a) a beam supporting a travelling crane or lifting arrangement, said beam being arranged to move on opposed rail means with a raised section of said beam extending between said rail means,

(b) a thin gauge sheet member beam being arranged to run on opposed rail means and supporting a travelling crane or lifting arrangement,

20 (c) a beam having a raised portion supporting a sheet member of a movable trolley which in turn has a raised portion supporting a travelling crane or lifting arrangement,

25 (d) an arrangement which is made compact in the height direction preferably by a portion of a beam and/or trolley being raised up in between opposed rail means supporting the beam and/or trolley for sliding movement,

(e) a beam and trolley of sheet member construction

and/or of telescopic form,

(f) any permutation of features derivable from the description or drawings which preferably give rise to an appearance of the gantry which is compact in the height dimension and/or which allow a trolley to be moved to an extended position beyond at least one side of a vehicle when attached thereto.

10 An embodiment of a gantry or platform for supporting a lifting arrangement or travelling crane in accordance with the present invention will now be described by way of example only with reference to the FIGURES of the drawings in which:

15

FIGURE 1 shows diagrammatically an end view of a vehicle fitted with a gantry or platform in accordance with the present invention;

20

FIGURE 2 shows a cross sectional view of the gantry/platform;

25

FIGURES 3 to 5 show the individual sections of the gantry/platform;

FIGURE 6 shows a more detailed part-sectional view of the gantry/platform which has been somewhat modified and corresponds with FIGURE 2; and

FIGURES 7 and 8 show detailed views of the FIGURE 6 arrangement, FIGURE 8 being a part-sectional view taken on line VIII-VIII of FIGURE 6.

5

Referring to FIGURES 1 to 5 of the drawings, a lifting gantry 1 is fitted in the roof R of a vehicle V and, advantageously, is of very compact form, more particularly in the height dimension. Gantry 1 has a main
 10 frame or member 2 which is slidable along the length of the vehicle in either of the directions X (see FIGURE 6) along two opposed rails 3 (see FIGURES 6 and 7) by means of rollers r_1 (only one roller set r_1 , shown in FIGURE 6). The main frame 2 has opposed rails 2a which depend
 15 downwardly and extend in a horizontal direction transverse to the vehicle (see FIGURE 2 and FIGURE 6). Rails 2a support rollers r_2 (see FIGURE 6, only one roller r_2 shown) depending upwardly and mounted on an upper sheet member beam 4 which in turn supports a movable trolley 5
 20 with a crane hook 6. The beam 4 and movable trolley 5 with crane hook 6 are slidable across the width of the vehicle V and beyond each side of the vehicle (as represented by the dotted lines in FIGURE 1 shown only at one side of the vehicle). As shown best in FIGURE 6, the
 25 sections of the gantry assembly 2,4,5 are connected together by means of rollers (r_1, r_2 as well as by additional rollers being shown by chain-dotted lines C). Rollers r_1, r_2 and additional rollers have been omitted from FIGURES 1 and 2 for ease of illustration but are

represented by vertical chain-dotted lines.

FIGURE 2 shows diagrammatically the interrelationship
5 of the sections 2,4,5 that together co-operate with one
another to form a very compact gantry; FIGURE 6 shows
this arrangement in more detail and in a slightly modified
form; FIGURE 7 shows an enlarged detail of a roller r_1
mounted in one of the rails 3; FIGURE 8 shows detail of a
10 locking mechanism L. The modifications incorporated in
FIGURE 6 will be discussed later.

The main frame 2 comprises a shaped sheet metal
15 section of 3 mm thickness steel plate pressed into the
shape as shown best in FIGURE 6 and is of substantially
uniform cross section. As shown in FIGURE 6, main frame 2
comprises a generally flat tray section with two similarly
shaped raised trapezium portions 2b, which are included
for added strength bearing in mind the relatively thin
20 thickness of material used, and has upturned end portions
2c. Near the end portions 2c, vertical, threaded shafts s
(see FIGURE 7) are mounted by nuts n to flat bottom
portions of the frame member 2 in a manner which should be
self-evident in order to allow for vertical adjustment of
25 the attached double roller assembly r_1 which runs on the
rails 3 welded to the roof structure R. Opposed
downwardly depending rails 2a are welded to the underside
of the main frame 2 in between respective trapezium shaped
portions 2b and the upturned ends 2c as shown more

particularly in FIGURE 6. Both the rails 3 and 2a consist of integral generally square-U-shaped lengths with inwardly facing upturned ends e.

5

Thus, the rails 2a comprise opposed rail means and a raised trapezium shaped portion 4a of the beam 4, advantageously, extends in between the two downwardly depending rails 2a so that the movable trolley 5 can be raised up higher into the roof area of the vehicle V than would otherwise be the case. Additionally, the trolley 5 comprises a lower sheet member 5a accommodated within the raised portion 4a of the beam 4 and the sheet member 5a itself has a trapezium shaped raised portion 5b extending in between further opposed rail means in the form of opposed rails 4b. The raised portion 5b of sheet member 5a allows the travelling crane itself to be raised up higher than would otherwise be the case. Rails 4b are welded to the underside of the highest flat section of the raised portion 4a of the beam 4 and again each rail 4b comprises a generally square U-shaped length having inwardly facing upturned ends e co-operable with double roller assemblies of the same type as rollers r_1 and r_2 . Some modifications are incorporated in FIGURE 6, the ends 4c of the beam 4 have been modified to provide box sections for strength (compare with the end portions shown in FIGURE 2). Additionally a locking mechanism L (see FIGURE 8) is also provided for locking the position of the trolley 5 relative to the beam 4. The locking mechanism

will be described later.

5 It is advantageous that the main frame, beam and trolley members 2,4,5 are all constructed of relatively thin gauge mild steel sheet (e.g. 3 mm thickness) which allows for pressing and thus for a much easier manufacturing process than employing heavy cast materials.

10 The present invention represents an improved version of a previously proposed arrangement of the Applicant which is now included in the present specification by way of an appendix. Thus, it should be seen by way of
15 comparison how the Applicant has been able to provide a gantry which is much more compact in the height dimension and which owing to the spread-out horizontal aspect is able to bear similar loads yet be constructed from thin gauge metal sheet pressings in a way not envisaged by the Applicant's previous arrangement. The material employed
20 for the beam (26) shown in the appendix is approximately 9 mm thickness and thus it is believed that the manufacturing process for the aforescribed embodiment can be simpler or more suitable than the arrangement detailed in said appendix. Thus, the Applicant now
25 supports a beam on opposed rail means extending transverse to the vehicle and is thus able to raise up a section of the beam in between said roller means enabling a trolley mounted on the beam to be raised up higher than would otherwise be the case, said trolley being mounted also on

opposed rail means with a central section of the trolley being raised up in between said last-mentioned rail means to finally raise up the level of a travelling crane carried by the trolley to a level which would not
5 otherwise be achieved.

Each double roller assembly comprises two pairs of wheels w with each wheel of each pair being mounted about
10 a common horizontal axis y with said wheels running in the upturned end portions e of an associated rail 3,2a,4b; each pair of wheels is connected by bridge piece B receiving a shaft s in a manner which should be apparent from the drawings. Movement of the rollers r_1, r_2 and
15 additional rollers in associated rails 3,2a,4b is limited by rail end stops (not shown).

Locking mechanism L is mounted on a plate p and comprises a rotatable lever L_1 pivotable as shown by the
20 double headed arrow L_3 in FIGURE 8. Pivoting of lever L_1 from the position as shown in full lines to that shown in chain-dotted lines operates the spring-loaded plunger L_4 to engage with or disengage from one of a series of locking holes h provided on a block 4d mounted on the
25 underside of the beam 4 as shown more particularly in FIGURE 6. Thus the trolley 5 can be locked in any one of a number of selected locations relative to the beam 4.

Actuation of the travelling crane (or winch) can be

by remote control and movement of the main frame 2b relative to the rails 3 could be motorised and could be controlled from within the cab of a goods vehicle. It is possible that movement of the beam 4 and/or trolley 5 could also be motorised.

Overall, the compact design of gantry allows the height of the vehicle to be made a foot or eighteen inches lower than need otherwise be the case which alleviates head-room problems that can occur especially with brewery vehicles.

The Applicant has made further improvements to the design of gantry or platform as described and accordingly a further embodiment of said gantry or platform in accordance with the present invention will now be described by way of example only with reference to further FIGURES of the drawings in which:

20

FIGURE 9 shows diagrammatically an end view of the vehicle fitted with the second embodiment of the gantry or platform, which view is similar to FIGURE 1;

25

FIGURE 10 shows a cut-away view of said vehicle but looking at the gantry or platform in a direction opposed to the end view shown in FIGURE 9, and FIGURE 11 shows a cross-sectional view of the gantry/platform which is similar to FIGURE 2.

Referrring to FIGURES 9 to 11 of the drawings, lifting gantry 1' is fitted in the roof R' of the vehicle V' and, advantageously, is of compact form, more particularly in the height direction. Gantry 1' has a
5 main frame or member 2' which is slidable along the length of the vehicle V' in either of the directions X' (see FIGURE 11) along two opposed rails 3' by means of rollers (not shown but similar to that shown in FIGURE 6).

10

FIGURE 11 shows sections of the gantry assembly 2', 4', 5' which are connected together telescopically by means of rollers r' such that the beam 4' and movable trolley 5' with crane hook 6' are slidable across the
15 width of the vehicle V' and beyond each side of the vehicle (as represented by the dotted lines in FIGURE 9 shown only at one side of the vehicle). Although the sheet metal main frame or member 2', sheet metal beam 4' and sheet metal trolley 5' are of greater depth than as
20 shown in the first embodiment (compare FIGURE 2) the trolley 5' and beam 4' fit up inside member 2' so that the very bottom of the travelling crane (that depends downwards of trolley 5') is at a similar height above the floor of the vehicle as in the first embodiment (compare
25 the lower chain dotted line in FIGURE 6 with the lower chain dotted line in FIGURE 11). Thus, the general box format of the main frame 2', beam 4' and trolley 5' gives considerable strength to the gantry assembly without reducing the height dimension in practice, from the floor

of the vehicle to the underside of the travelling crane. The thickness of the shaped sheet metal sections of the gantry assembly 2', 4', 5' are of 3mm thickness. Frame member 2' and beam 4' have upturned flanges 2a', 4a' on
5 which rollers r' can run in a manner which should be self-explanatory from FIGURE 11. The right-hand sides 5'a of trolley 5 and 2'b of frame member 2 are provided with outward and inwardly extending roller means r' co-operable with respective guide channels g_1 and g_2 connected on
10 opposed faces of a right-hand side 4'a of beam 4', in a manner which should be self-evident from FIGURE 11. Trolley 5' is provided with upper flanges 5'b and 5'c for connection to a plate carrying a travelling crane.

15

Advantageously, in this embodiment of a lifting gantry 1', movement of the main frame 2' fore and aft of the vehicle as well as movement of the beam 4' and trolley 5' has been motorised. Owing to the space saving design
20 of gantry, which nevertheless provides a substantial area in height dimension of main frame 2' various components can be mounted on said frame 2' in a manner to be explained.

25

Manually operated spring loaded cross slide stops s' are provided at either end of the main frame 2' as shown in FIGURES 9 and 10. Thus, these cross slide stops s' are effectively an extension lock which locks the beam 4' in the extended position. Movement of the gantry fore and

aft of the vehicle and movement of the beam 4' and trolley 5' across the vehicle is controlled by hand-control h' (see FIGURE 9) connected by wander lead L' to the control lead variable position plug-in point or box B', a forward/rearward and transverse motor/gearbox G' is connected to a working lamp W' and amber warning beacons E' located on either side of the main frame 2'. Power for the motor/gearbox G' is supplied through power supply trunking T' in the roof of the vehicle. The working lamp W' is adjustable and is an optional component. The main frame 2' is supplied with three solenoid control boxes c' and an optional battery level indicator i' shown in FIGURE 10. Forward/rearward and transverse stop micro switches m' are provided as shown in FIGURES 9 and 10 and 7 is a forward/rearward travel cable. Reference numeral o' denotes an overwind cut-off plate preventing overwind of the crane cable. FIGURE 11 shows schematically in chain-dotted lines the position of the motor and winch drum D' and winch cable N' of the travelling crane.

The uppermost portion of beam 4' is lower than the uppermost portion of member 2', and the uppermost portion of trolley 5' is lower than the uppermost portion of beam 4', so that trolley 5' can be considered lower than beam 4' and beam 4' can be considered lower than member 2'. A raised or upper portion of beam 4' accommodates part of trolley 5'.

Still further according to the present invention there is provided a gantry, or platform for supporting a lifting arrangement or travelling crane, for a vehicle, said gantry or platform extending, in use, from side to side of the vehicle and having a sheet or box member beam able to project beyond at least one side of the vehicle through an opening in said one side, said sheet or box member beam co-operating telescopically with a second sheet or box member of a movable trolley slidable in use across the width of the vehicle relative to said first-mentioned beam and beyond each side of the vehicle.

Still further according to the present invention there is provided a gantry or platform for supporting a lifting arrangement or travelling crane, for a vehicle, said gantry or platform extending, in use, from side to side of the vehicle and having a beam able to project beyond at least one side of the vehicle through an opening in said one side, said beam being movable on opposed rail means and having a portion in between said opposed rail means, said beam supporting a trolley telescopically or said trolley being supported within the beam, which trolley is slidable relative to said beam.

25

It is to be understood that the scope of the present invention is not to be unduly limited by the particular choice of terminology as a specific term may be replaced by any equivalent or generic term. Further it is to be

understood that individual features, method or functions related to the gantry or parts thereof (in particular the trolley and mounting and cross sectional gantry parts) might be individually patentably inventive. The singular
5 may include the plural and vice versa.

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CLAIMS

1. A gantry, or platform for supporting a lifting
5 arrangement or travelling crane, for a vehicle, said
gantry or platform extending, in use, from side to side of
the vehicle and having a sheet member beam able to project
beyond at least one side of the vehicle through an opening
in said one side, said sheet member beam cooperating with
10 a lower sheet member of a movable trolley slidable in use,
across the width of the vehicle relative to said upper
sheet member beam and beyond each side of the vehicle, a
raised portion of the upper sheet member beam
accommodating at least part of the lower sheet member.

15

2. A gantry or platform as claimed in Claim 1 in which
said lower sheet member has a raised portion accommodating
part of a lifting arrangement or travelling crane arranged
on the trolley.

20

3. A gantry or platform as claimed in Claim 1 or Claim 2
in which said beam is movable on opposed rail means and
has a raised portion in between said opposed rail means,
said beam supporting the trolley from said raised portion.

25

4. A gantry or platform as claimed in Claim 3 in which
said beam supports the trolley by means of further opposed
rail means and said trolley has a raised portion in
between said further opposed rail means, said raised

portion supporting a travelling crane or lifting apparatus.

5 5. A gantry or platform as claimed in Claim 4 in which said further opposed rail means are arranged in between said first-mentioned opposed rail means.

10 6. A gantry or platform as claimed in any one of the preceding Claims in which the beam and/or trolley comprises a sheet metal pressing.

7. A gantry or platform as claimed in Claim 6 in which the sheet metal is 3 mm gauge material.

15

8. A gantry or platform as claimed in any one of the preceding Claims comprising a sheet member main frame which supports the beam.

20 9. A gantry or platform as claimed in Claim 18 in which the first-mentioned opposed rail means depends downwardly from said main frame and engages with upwardly extending rollers mounted on said beam or vice versa.

25 10. A gantry or platform as claimed in Claim 9 in which the main frame is movable, in use, along the length of the vehicle on additional opposed rail means extending along the sides of the vehicle transverse to the first-mentioned and second-mentioned opposed rail means where provided.

11. A gantry or platform as claimed in Claim 10 in which upwardly projecting roller means connected to the main frame engage in said third-mentioned opposed rail means.

5

12. A gantry or platform as claimed in any one of the preceding Claims in which raised portions of the beam and/or trolley are trapezium shaped and/or the main frame is provided with one or more raised portions.

10

13. A gantry or platform as claimed in any one of the preceding claims when dependent from Claim 3 comprising a mechanism allowing the beam to slide relative to the first-mentioned opposed rail means and/or which allows the
15 trolley to slide relative to said beam and/or which allows the main frame (where provided) to slide relative to the vehicle in use.

20

14. A gantry or platform as claimed in any one of the preceding Claims in which movement of the trolley relative to the beam and/or the beam relative to the first-mentioned opposed rail means (where provided) and/or the movement of the main frame (where provided) relative to said third mentioned opposed rail means is via remote
25 control and/or is motorised or power driven.

15. A gantry or platform as claimed in any one of the preceding Claims when dependent from Claim 3 in which the trolley is provided with a locking mechanism to

selectively lock the trolley to said beam.

16. A gantry or platform as claimed in any one of Claims
5 when dependent from Claim 3 in which the first, second
and/or third opposed rail means is provided with end stops
to limit the travel of the rollers thereon.

17. A gantry, or platform, supporting a lifting
10 arrangement or travelling crane substantially as herein
described with reference to FIGURES 1 to 8, or FIGURES 9
to 11 of the accompanying drawings.

18. A gantry or platform for supporting a lifting
15 arrangement or travelling crane, for a vehicle, said
gantry or platform extending, in use, from side to side of
the vehicle and having a beam able to project beyond at
least one side of the vehicle through an opening in said
one side, said beam being movable on opposed rail means
20 and having a raised portion in between said opposed rail
means, said beam supporting a trolley from said raised
portion, which trolley is slidable relative to said beam.

19. A gantry or platform as claimed in Claim 18 in which
25 said beam supports the trolley by means of further opposed
rail means and said trolley has a raised portion in
between said further opposed rail means, said raised
portion supporting a travelling crane or lifting
apparatus.

20. A gantry or platform as claimed in Claim 19 in which said further opposed rail means are arranged in between said first-mentioned opposed rail means.

5

21. A gantry or platform as claimed in any one of Claims 3 to 20 in which the beam and/or trolley comprises a sheet metal pressing.

10 22. A gantry or platform as claimed in Claim 21 in which the sheet metal is 3 mm gauge material.

23. A gantry or platform as claimed in any one of Claims 18 to 22 comprising a sheet member main frame which
15 supports the beam.

24. A gantry or platform as claimed in any one of Claims 18 to 23 in which the first-mentioned opposed rail means depends downwardly from said main frame and engages with
20 upwardly extending rollers mounted on said beam or vice versa.

25. A gantry or platform as claimed in Claim 24 in which the main frame is movable, in use, along the length of the
25 vehicle on additional opposed rail means extending along the sides of the vehicle transverse to the first-mentioned and second-mentioned opposed rail means where provided.

26. A gantry or platform as claimed in Claim 25 in which

upwardly projecting roller means connected to the main frame engage in said third-mentioned opposed rail means.

- 5 27. A gantry or platform as claimed in any one of Claims 18 to 26 in which raised portions of the beam and/or trolley are trapezium shaped and/or the main frame is provided with one or more raised portions.
- 10 28. A gantry or platform as claimed in any one of Claims 18 to 27 comprising a mechanism allowing the beam to slide relative to the first-mentioned opposed rail means and/or which allows the trolley to slide relative to said beam and/or which allows the main frame (where provided) to
15 slide relative to the vehicle in use.
29. A gantry or platform as claimed in any one of Claims 18 to 28 in which movement of the trolley relative to the beam and/or the beam relative to the first-mentioned
20 opposed rail means (where provided) and/or the movement of the main frame (where provided) relative to said third mentioned opposed rail means is via remote control and/or is motorised.
- 25 30. A gantry or platform as claimed in any one of Claims 18 to 29 in which the trolley is provided with a locking mechanism to selectively lock the trolley to said beam.
31. A gantry or platform as claimed in any one of Claims

18 to 30 in which the first, second and/or third opposed rail means is provided with end stops to limit the travel of the rollers thereon.

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32. A gantry, or platform, supporting a lifting arrangement or travelling crane, comprising one or more of the following features:

10 (a) a beam supporting a travelling crane or lifting arrangement, said beam being arranged to move on opposed rail means with a raised section of said beam extending between said rail means,

15 (b) a thin gauge sheet member being arranged to run on opposed rail means and supporting a travelling crane or lifting arrangement,

20 (c) a beam having a raised portion supporting a sheet member of a movable trolley which in turn has a raised portion supporting a travelling crane or lifting arrangement,

25 (d) an arrangement which is made compact in the height direction preferably by a portion of a beam and/or trolley being raised up in between opposed rail means supporting the beam and/or trolley for sliding movement,

(e) a beam and trolley of sheet member construction

and/or of telescopic form,

5 (f) any permutation of features derivable from the description or drawings which preferably give rise to an appearance of the gantry which is compact in the height dimension and/or which allow a trolley to be moved to an extended position beyond at least one side of a vehicle when attached thereto.

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33. A gantry, or platform for supporting a lifting arrangement or travelling crane, for a vehicle, said gantry or platform extending, in use, from side to side of the vehicle and having a sheet or box member beam able to project beyond at least one side of the vehicle through an opening in said one side, said sheet or box member beam co-operating telescopically with a second sheet or box member of a movable trolley slidable in use across the width of the vehicle relative to said first-mentioned beam and beyond each side of the vehicle.

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34. A gantry or platform as claimed in Claim 1 in which movement of same along the vehicle and/or across the vehicle is motorised or power driven.

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35. A gantry or platform as claimed in Claim 34 which is selectively controlled by means of a hand control.

36. A gantry or platform as claimed in Claim 35 in which

equipment for motorised control of the gantry/platform is mounted on said first-mentioned beam.

5 37. A gantry or platform for supporting a lifting
arrangement or travelling crane, for a vehicle, said
gantry or platform extending, in use, from side to side of
the vehicle and having a beam able to project beyond at
least one side of the vehicle through an opening in said
10 one side, said beam being movable on opposed rail means
and having a portion in between said opposed rail means,
said beam supporting a trolley telescopically or said
trolley being supported within the beam, which trolley is
slidable relative to said beam.

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Relevant Technical Fields

- (i) UK Cl (Ed.) B8E (E21C); B8H (HDV, HGMB, HGMC)
 (ii) Int Cl (Ed.5) B60P 1/54

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii)

Search Examiner
 D McMUNN

Date of completion of Search
 1 FEBRUARY 1994

Documents considered relevant
 following a search in respect of
 Claims :-
 1-31

Categories of documents

- X: Document indicating lack of novelty or of inventive step. P: Document published on or after the declared priority date but before the filing date of the present application.
 Y: Document indicating lack of inventive step if combined with one or more other documents of the same category. E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.
 A: Document indicating technological background and/or state of the art. &: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
	NONE	